

REMARKS

Reconsideration and allowance of the above-identified Application in view of the above amendments and the following remarks are respectfully requested.

Claims 1-6, 8-14 and 16-25 are pending in the Application. Claims 7 and 15 have been cancelled without prejudice or disclaimer to the subject matter recited therein.

Claims 18-25 are newly added. Support for claims 18-25 may be found throughout the original disclosure.

Applicants are pleased to note the Examiner has indicated that claims 5 and 6 would be allowable if rewritten in independent form. Accordingly, Applicants have added claim 22 corresponding to allowable claim 5 rewritten in independent form and added claim 23 which corresponds to claim 6 but now dependent from claim 22. Therefore, Applicants respectfully submit that claims 22 and 23 are in form for allowance.

Claims 11 and 12 were only rejected under § 112, second paragraph. Therefore, Applicants assume that claims 11 and 12 would be allowable if the rejection § 112, second paragraph is overcome.

Drawings

The drawings were objected to under 37 C.F.R. § 1.84 by the draftsperson. Accordingly, Applicants are filing a set of formal drawings in replacement of the informal drawings.

Claim rejections – 35 USC § 112

Claims 1, 7-8 and 11-12 were rejected under 35 U.S.C. § 112, second paragraph. The phrase “rotatable wheels” in claim 12 has been amended to read “rotatable members” which has antecedent in claim 11.

Therefore, Applicants respectfully submit that the pending claims are in full compliance with 35 U.S.C. 112 and respectfully request that the rejection of claims 1, 7-8 and 11-12 under 35 U.S.C. § 112, second paragraph be withdrawn.

Claim rejections – 35 USC § 102

Claims 1-4 and 17 were rejected under 35 U.S.C. § 102(e) as being anticipated by Shirakawa (U.S. Patent No. 6,753,508).

Claim 1 has been amended to recite, *inter-alia*, “a drift controlling structure configured to control a lateral movement of the substrate relative to the heat distributing plate and or rotate the substrate.”

Claim 17 has been amended to recite, *inter-alia*, “controlling a drift of the rotating substrate to provide additional control of temperature across the substrate so as to further reduce variation in the temperature profile transferred to the substrate.”

Shirakawa does not disclose, teach or even suggest a drift controlling structure configured to control a lateral movement of the substrate relative to a heat distributing plate and/or rotate the substrate. Furthermore, Shirakawa does not disclose, teach or suggest controlling a drift of a rotating substrate to provide additional control of temperature across the substrate so as to further reduce variation in the temperature profile transferred to the substrate.

Consequently, Shirakawa does not disclose, teach or suggest the subject matter recited in claims 1 and 17.

Therefore, Applicants respectfully submit that claims 1 and 17, and claims 2-4 which depend from claim 1, are patentable over Shirakawa. Thus, Applicants respectfully request that the rejection of claims 1-4 and 17 under § 102(e) over Shirakawa be withdrawn.

Claim rejections – 35 USC § 103

Claims 7-10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shirakawa in view of Sato et al. (U.S. Patent No. 5,527393). Applicants respectfully traverse this rejection for at least the following reasons.

Claim 7 has been cancelled herein without prejudice or disclaimer to the subject matter contained therein. The subject matter of claim 7 is now recited in claim 1.

The Examiner concedes that Shirakawa fails to disclose, teach or suggest a drift controlling structure. The Examiner contends, however, that Sato et al. discloses a plurality of members arranged to contact an edge of the substrate during processing and thus contends that it would have been obvious to of ordinary skill in the art to include “the drift controlling structure” of Sato et al. in the apparatus of Shirakawa. Applicants respectfully disagree.

Sato et al. fails to overcome the deficiencies of Shirakawa noted above with respect to claim 1. Sato et al. merely discloses a substrate supporting member 10 having a stepped portion configured to support a substrate 3 at its periphery (see col. 7, lines 38-45 and for example Figures 1 and 2 in Sato et al.). The substrate supporting member 10 of Sato et al. is not a drift controlling structure configured to control a lateral movement of the substrate

relative to a heat distributing plate and/or rotate the substrate. Furthermore, there is no suggestion or motivation in either Shirakawa or Sato to combine Shirakawa and Sato to include the supporting member 10 of Sato in the apparatus of Shirakawa.

Moreover, even if one were to combine Shirakawa and Sato, which Applicants do not concede, the constructions of Shirakawa and Sato being very different from each other, one would not obtain the thermal processing apparatus of claim 1. Indeed, the supporting member 10 supporting the substrate 3 of Sato is connected to rotating holder 4 via thin posts 11 (see Figures 1 and 2 in Sato) and, as a result, the holder 4, the thin posts 11, the supporting member 10 and the substrate 3 rotate as a whole. While, in Shirakawa, only the substrate W held by pins 71 rotates. Thus, if one were to use the Sato construction in Shirakawa's construction, which Applicants do not concede, the rotation of the substrate of Shirakawa would be hindered as the supporting member of Sato would be in contact with the periphery of the substrate. As such, one would not be motivated to combine Sato and Shirakawa.

Consequently, neither Shirakawa nor Sato et al., alone or in combination, disclose, teach or suggest the subject matter recited in claim 1.

Therefore, Applicants respectfully submit that claim 1, and claims 2-6 and 8-10 which depend from claim 1 are patentable, and respectfully request that the rejection of claims 7-10 over the combination of Shirakawa and Sato et al. be withdrawn.

Claim rejections – 35 USC § 103

Claims 13-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Shirakawa in view of Sato et al. (U.S. Patent No. 5,527393) and further in view of Kuznetsov et al. (U.S. Patent No. 6,329,304). Applicants respectfully traverse this rejection for at least the following reasons.

Claim 15 has been cancelled without prejudice or disclaimer to the subject matter recited therein. Therefore, the rejection of claim 15 is rendered moot.

Claims 13-16 depend directly or indirectly from claim 1. Therefore, for at least the reasons provided above with respect to claim 1, Applicants respectfully submit that claims 13, 14 and 16 are patentable over the combination of Shirakawa and Sato et al.

Kuznetsov et al. fails to overcome the limitations of Shirakawa and Sato et al., taken alone or in combination. Kuznetsov et al. does not disclose, teach or suggest a drift controlling structure configured to control a lateral movement of the substrate relative to a heat distributing plate and/or rotate the substrate. Consequently, none of Shirakawa, Sato et

al. and Kuznetsov et al., alone or in combination, disclose, teach or suggest the subject matter recited in independent claim 1.

Therefore, Applicants respectfully submit that claim 1, and claims 13, 14 and 16, are patentable, and respectfully request that the rejection of claims 13-16 under § 103 (a) over the combination of Shirakawa, Sato et al. and Kuznetsov et al. be withdrawn.

Claims 18-21 depend from claim 1. Therefore, for at least the reasons provided above with respect to claim 1, Applicants respectfully submit that claims 18-21 are patentable.

Claims 22 and 23 correspond respectively to allowable claims 5 and 6. Therefore, Applicants respectfully submit that claims 22 and 23 are in condition for allowance.

Claims 24 corresponds to previous claim 14. Claim 25 depends from claim 24. Claim 24 recites, *inter-alia*, “wherein the substrate support comprises a gas bearing and the gas bearing is controllable to act as the actuator.”

Kuznetsov et al. merely discloses a floating wafer reactor in which gas jets are supplied perpendicular to the wafer (see Figure 1 of Kuznetsov et al.) so that the wafer is made to float between walls of the reactor. Kuznetsov et al. does not disclose, teach or even suggest a gas bearing controllable to act as an actuator to rotate the substrate. Clearly, the gas jets of Kuznetsov et al. are merely used to make the wafer float not rotate as the gas jets of Kuznetsov act perpendicular to the wafer. Consequently, none of Shirakawa, Sato et al. and Kuznetsov et al., alone or in combination, disclose, teach or suggest a substrate support comprising a gas bearing controllable to act as an actuator to rotate the substrate during a heat transfer operation.

Therefore, for at least these reasons, Applicants respectfully submit that claims 24 and 25 are patentable.

CONCLUSION

In view of the foregoing, the claims are now in form for allowance, and such action is hereby solicited. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,
PILLSBURY WINTHROP LLP



ROBERT C. PEREZ
Reg. No. 39328
Tel. No. 703.905.2159
Fax No. 703.905.2500

RCP/KG
P.O. Box 10500
McLean, VA 22102
(703) 905-2000

IN THE DRAWING(S):

Please find attached four sheets formal drawings of the above identified application.
These sheets replace the original sheets showing Figures 1, 2, 3, 3A, 4, 5 and 6.

Attachment: Formal Drawings.